

## PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING

To:  
LEE, Kwang-Bok  
4F., Byukcheon Bldg., 1597-5, Seocho-dong, Seocho-gu, 137-876 Seoul, Republic of Korea

PCT

NOTIFICATION OF TRANSMITTAL OF  
INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing  
(day/month/year) 20 APRIL 2005 (20.04.2005)Applicant's or agent's file reference  
PCT03-034

## IMPORTANT NOTIFICATION

International application No. <b>PCT/KR2003/001155</b>	International filing date (day/month/year) <b>12 JUNE 2003 (12.06.2003)</b>	Priority date (day/month/year) <b>17 JANUARY 2003 (17.01.2003)</b>
---	--	---

Applicant

**LG HOUSEHOLD & HEALTHCARE CO., LTD. et al**

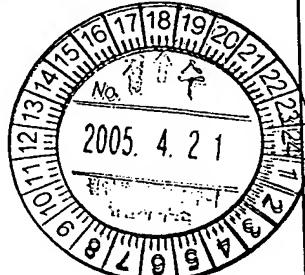
1. The applicant is hereby notified that International Preliminary Examining Authority transmits here with the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

## 4. REMINDER

The applicant must enter the national phase before each elected office by performing certain acts (filing translations and paying national fees) within 30 month(s) from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details in the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.



Name and mailing address of the IPEA/KR  
  
 Korean Intellectual Property Office  
 920 Dunsan-dong, Seo-gu, Daejeon 302-701,  
 Republic of Korea  
 Facsimile No. 82-42-472-7140

Authorized officer  
**COMMISSIONER**  
 Telephone No. 82-42-481-5198



## PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

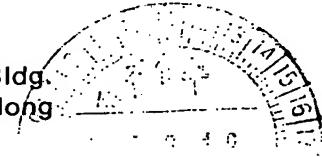
PCT

NOTIFICATION CONCERNING  
SUBMISSION OR TRANSMITTAL  
OF PRIORITY DOCUMENT

(PCT Administrative Instructions, Section 411)

To:

LEE, Kwang-Bok  
4F., Byukcheon Bldg.  
1597-5, Seocho-dong  
Seocho-gu  
Seoul 137-876  
Republic of Korea



Date of mailing (day/month/year) 05-August 2003 (05.08.03)	
Applicant's or agent's file reference PCT03-034	<b>IMPORTANT NOTIFICATION</b>
International application No. PCT/KR03/01155	International filing date (day/month/year) 12 June 2003 (12.06.03)
International publication date (day/month/year) Not yet published	Priority date (day/month/year) 17 January 2003 (17.01.03)
Applicant LG HOUSEHOLD & HEALTHCARE CO., LTD. et al	

1. The applicant is hereby notified of the date of receipt (except where the letters "NR" appear in the right-hand column) by the International Bureau of the priority document(s) relating to the earlier application(s) indicated below. Unless otherwise indicated by an asterisk appearing next to a date of receipt, or by the letters "NR", in the right-hand column, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
2. This updates and replaces any previously issued notification concerning submission or transmittal of priority documents.
3. An asterisk(\*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b). In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
4. The letters "NR" appearing in the right-hand column denote a priority document which was not received by the International Bureau or which the applicant did not request the receiving Office to prepare and transmit to the International Bureau, as provided by Rule 17.1(a) or (b), respectively. In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

<u>Priority date</u>	<u>Priority application No.</u>	<u>Country or regional Office or PCT receiving Office</u>	<u>Date of receipt of priority document</u>
17 Janu 2003 (17.01.03)	10-2003-0003367	KR	09 July 2003 (09.07.03)

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 338-70-90

Authorized official

David MALEK

Telephone No. (41-22) 338-8986

005788164

## PATENT COOPERATION TREATY

PCT

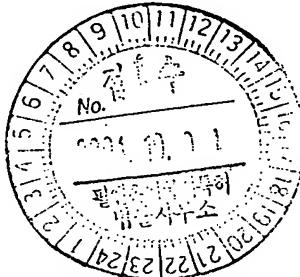
NOTIFICATION OF THE RECORDING  
OF A CHANGE(PCT Rule 92bis.1 and  
Administrative Instructions, Section 422)

Date of mailing (day/month/year) 10 September 2004 (10.09.2004)
Applicant's or agent's file reference PCT03-034
International application No. PCT/KR2003/001155

From the INTERNATIONAL BUREAU

To:

LEE, Kwang-Bok  
4F., Byukcheon Bldg.  
1597-5, Seocho-dong  
Seocho-gu  
Seoul 137-876  
Republic of Korea



## IMPORTANT NOTIFICATION

International filing date (day/month/year) 12 June 2003 (12.06.2003)
---

## 1. The following indications appeared on record concerning:

the applicant  the inventor  the agent  the common representative

Name and Address LG HOUSEHOLD & HEALTHCARE CO., LTD. 20 Yoido-dong, Youngdungpo-gu Seoul 150-721 Republic of Korea	State of Nationality KR	State of Residence KR
	Telephone No. +82-42-860-8130	
	Facsimile No. +82-42-863-2076	
	Teleprinter No.	

## 2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

the person  the name  the address  the nationality  the residence

Name and Address LG HOUSEHOLD & HEALTH CARE LTD. 20 Yoido-dong, Youngdungpo-gu Seoul 150-721 Republic of Korea	State of Nationality KR	State of Residence KR
	Telephone No. +82-42-860-8130	
	Facsimile No. +82-42-863-2076	
	Teleprinter No.	

## 3. Further observations, if necessary:

4. A copy of this notification has been sent to:	
<input checked="" type="checkbox"/> the receiving Office <input type="checkbox"/> the International Searching Authority <input checked="" type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> the designated Offices concerned <input checked="" type="checkbox"/> the elected Offices concerned <input type="checkbox"/> other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 338.70.90	Authorized officer Sudha RAMAKRISHNAN Telephone No. (41-22) 338 8516
--	--

From the INTERNATIONAL BUREAU

## PCT

INFORMATION CONCERNING ELECTED  
OFFICES NOTIFIED OF THEIR ELECTION

(PCT Rule 61.3)

To:

LEE, Kwang-Bok  
4F., Byukcheon Bldg.  
1597-5, Seocho-dong  
Seocho-gu  
Seoul 137-876  
RÉPUBLIQUE DE CORÉE



Date of mailing (day/month/year)  
30 September 2004 (30.09.2004)

Applicant's or agent's file reference  
PCT03-034

## IMPORTANT INFORMATION

International application No. PCT/KR2003/001155	International filing date (day/month/year) 12 June 2003 (12.06.2003)	Priority date (day/month/year) 17 January 2003 (17.01.2003)
Applicant LG HOUSEHOLD & HEALTH CARE LTD. et al		

1. The applicant is hereby informed that the International Bureau has, according to Article 31(7), notified each of the following Offices of its election:  
**EP: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR**  
**National: BG, CA, CN, CZ, DE, JP, KP, MN, NO, PL, RO, RU, SK, US**
2. The following Offices have waived the requirement for the notification of their election; the notification will be sent to them by the International Bureau only upon their request:  
**AP: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW**  
**EA: AM, AZ, BY, KG, KZ, MD, RU, TJ, TM**  
**OA: BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG**  
**National: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BR, BY, BZ, CH, CO, CR, CU, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MW, MX, MZ, NI, NZ, OM, PH, PT, SC, SD, SE, SG, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW**
3. The applicant is reminded that he must enter the "national phase" before the expiration of 30 months from the priority date before each of the Offices listed above. This must be done by paying the national fee(s) and furnishing, if prescribed, a translation of the international application (Article 39(1) (a)), as well as, where applicable, by furnishing a translation of any annexes of the international preliminary examination report (Article 36(3) (b) and Rule 74.1).

Some offices have fixed time limits expiring later than the above-mentioned time limit. For detailed information about the applicable time limits and the acts to be performed upon entry into the national phase before a particular Office, see Volume II of the PCT Applicant's Guide.

The entry into European regional phase is postponed until 31 months from the priority date for all States designated for the purposes of obtaining a European patent.

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Authorized officer

Idhir Britel

Facsimile No.+41 22 740 14 35

Facsimile No.+41 22 338 70 90

The demand must be filed directly with the competent International Preliminary Examining Authority or, if two or more Authorities are competent, with the one chosen by the applicant. The full name or two-letter code of that Authority may be indicated by the applicant on the line below:

IPEA/ KR

PCT

CHAPTER II

DEMAND

under Article 31 of the Patent Cooperation Treaty:

The undersigned requests that the international application specified below be the subject of international preliminary examination according to the Patent Cooperation Treaty.

For International Preliminary Examining Authority use only

Identification of IPEA		Date of receipt of DEMAND
<b>Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION</b>		
International application No. <b>PCT/KR2003/001155</b>	International filing date (day/month/year) <b>12 JUNE 2003 (12.06.2003)</b>	Applicant's or agent's file reference <b>PCT03-034</b> (Earliest) Priority date (day/month/year) <b>17 JANUARY 2003 (17.01.2003)</b>
Title of invention <b>MULTI-LAYERED CARBON NANOBALL FOR DEODORIZATION</b>		
<b>Box No. II APPLICANT(S)</b>		
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) <b>LG HOUSEHOLD &amp; HEALTH CARE LTD. 20 Yido-dong, Youngdungpo-gu, Seoul 150-721 Republic of Korea</b>		Telephone No. <b>+82-42-860-8130</b> Facsimile No. <b>+82-42-863-2076</b> Teleprinter No. Applicant's registration No. with the Office
State (that is, country) of nationality: <b>KR</b>	State (that is, country) of residence: <b>KR</b>	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) <b>KIM, Jong-Yun 110-104, Sejong Apt., Jeonmin-dong, Yuseong-gu, Daejeon 305-728 Republic of Korea</b>		
State (that is, country) of nationality: <b>KR</b>	State (that is, country) of residence: <b>KR</b>	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) <b>SONG, Jun-Yeob 133-502 Hanil-Town Apt., Jowon-dong, Jangan-gu, Suwon-si, Gyeonggi-do 440-709 Republic of Korea</b>		
State (that is, country) of nationality: <b>KR</b>	State (that is, country) of residence: <b>KR</b>	
<input checked="" type="checkbox"/> Further applicants are indicated on a continuation sheet.		

## Continuation of Box No. II APPLICANT(S)

*If none of the following sub-boxes is used, this sheet should not be included in the demand.*Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*

PARK, Seung-Kyu  
 109-902 Sejong Apt., Jeonmin-dong, Yuseong-gu,  
 Daejeon 305-728 Republic of Korea

State *(that is, country)* of nationality:  
 KR

State *(that is, country)* of residence:  
 KR

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*

KANG, Yun-Seog  
 106-1307 Expo Apt., Jeonmin-dong, Yuseong-gu,  
 Daejeon 305-761 Republic of Korea

State *(that is, country)* of nationality:  
 KR

State *(that is, country)* of residence:  
 KR

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*

YOON, Suk-Bon  
 866-2 Goegok-dong, Seo-gu,  
 Daejeon 302-110 Republic of Korea

State *(that is, country)* of nationality:  
 KR

State *(that is, country)* of residence:  
 KR

Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*

YU, Jong-Sung  
 103-903 Hyangchon Apt., Dunsan 2-dong, Seo-gu,  
 Daejeon 302-776 Republic of Korea

State *(that is, country)* of nationality:  
 KR

State *(that is, country)* of residence:  
 KR

Further applicants are indicated on another continuation sheet.

**Box No. III AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE**

The following person is  agent  common representative

and  has been appointed earlier and represents the applicant(s) also for international preliminary examination.

is hereby appointed and any earlier appointment of (an) agent(s)/common representative is hereby revoked.

is hereby appointed, specifically for the procedure before the International Preliminary Examining Authority, in addition to the agent(s)/common representative appointed earlier.

Name and address: (Family name followed by given name; for a legal entity, full official designation.  
The address must include postal code and name of country.)

LEE, Kwang-Bok  
4F., Byukcheon Bldg., 1597-5, Seocho-dong, Seocho-gu,  
Seoul 137-876 Republic of Korea

Telephone No.

+82-2-597-2882

Facsimile No.

+82-2-522-0721

Teleprinter No.

Agent's registration No. with the Office

Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

**Box No. IV BASIS FOR INTERNATIONAL PRELIMINARY EXAMINATION****Statement concerning amendments:\***

1. The applicant wishes the international preliminary examination to start on the basis of:

the international application as originally filed

the description  as originally filed

as amended under Article 34

the claims  as originally filed

as amended under Article 19 (together with any accompanying statement)

as amended under Article 34

the drawings  as originally filed

as amended under Article 34

2.  The applicant wishes any amendment to the claims under Article 19 to be considered as reversed.

3.  The applicant wishes the start of the international preliminary examination to be postponed until the expiration of the applicable time limit under Rule 69.1(d).

4.  The applicant expressly wishes the international preliminary examination to start earlier than at the expiration of the applicable time limit under Rule 54bis.1(a).

\* Where no check-box is marked, international preliminary examination will start on the basis of the international application as originally filed or, where a copy of amendments to the claims under Article 19 and/or amendments of the international application under Article 34 are received by the International Preliminary Examining Authority before it has begun to draw up a written opinion or the international preliminary examination report, as so amended.

Language for the purposes of international preliminary examination: English

which is the language in which the international application was filed.

which is the language of a translation furnished for the purposes of international search.

which is the language of publication of the international application.

which is the language of the translation (to be) furnished for the purposes of international preliminary examination.

**Box No. V ELECTION OF STATES**

The filing of this demand constitutes the election of all Contracting States which are designated and are bound by Chapter II of the PCT.

## Box No. VI CHECK LIST

The demand is accompanied by the following elements, in the language referred to in Box No. IV, for the purposes of international preliminary examination:

			For International Preliminary Examining Authority use only
			received      not received
1. translation of international application	:	sheets	<input type="checkbox"/> <input type="checkbox"/>
2. amendments under Article 34	:	sheets	<input type="checkbox"/> <input type="checkbox"/>
3. copy (or, where required, translation) of amendments under Article 19	:	sheets	<input type="checkbox"/> <input type="checkbox"/>
4. copy (or, where required, translation) of statement under Article 19	:	sheets	<input type="checkbox"/> <input type="checkbox"/>
5. letter	:	sheets	<input type="checkbox"/> <input type="checkbox"/>
6. other (specify)	:	sheets	<input type="checkbox"/> <input type="checkbox"/>

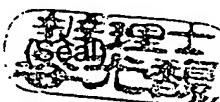
The demand is also accompanied by the item(s) marked below:

- 1.  fee calculation sheet
- 2.  original separate power of attorney
- 3.  original general power of attorney
- 4.  copy of general power of attorney;  
reference number, if any:
- 5.  statement explaining lack of signature
- 6.  sequence listing in computer readable form
- 7.  tables in computer readable form related to a  
sequence listing
- 8.  other (specify):

## Box No. VII SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

*Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the demand).*

Applicant (Agent) LEE, Kwang-Bok



## For International Preliminary Examining Authority use only

## 1. Date of actual receipt of DEMAND:

2. Adjusted date of receipt of demand due  
to CORRECTIONS under Rule 60.1(b):

- 3.  The date of receipt of the demand is AFTER the expiration of 19 months from the priority date and item 4 or 5, below, does not apply.  
 The applicant has been informed accordingly.
- 4.  The date of receipt of the demand is WITHIN the time limit of 19 months from the priority date as extended by virtue of Rule 80.5.
- 5.  Although the date of receipt of the demand is after the expiration of 19 months from the priority date, the delay in arrival is EXCUSED pursuant to Rule 82.

- 6.  The date of receipt of the demand is AFTER the expiration of the time limit under Rule 54bis.1(a) and item 7 or 8, below, does not apply.
- 7.  The date of receipt of the demand is WITHIN the time limit under Rule 54bis.1(a) as extended by virtue of Rule 80.5.
- 8.  Although the date of receipt of the demand is after the expiration of the time limit under Rule 54bis.1(a), the delay in arrival is EXCUSED pursuant to Rule 82.

## For International Bureau use only

Demand received from IPEA on: